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water Algæ in New Zealand do not from several causes occur so frequently as in the regions of the corresponding latitudes of the northern hemisphere. The ground which is generally sloping, gives a rapid course to rivers and brooks, and the surface occupied by stagnant water, swamps and bogs is not very extensive. The comparative small number of water and bog plants growing sociably together (such as Potamogeton and others), which in the stagnant waters and marshy spots of Europe are favorable to the existence of the Fresh-water Algæ, is of great consequence. The usually dry summer generally causes the draining of those lowland spots which in the wet season (the winter) are swampy. Therefore, the Algæ are more frequent in the damp and moss-grown localities of the mountainous regions in the northern as well as in the southern island. In the rivulets from hot springs in the Hot Lake District in the northern island the Algæ are, especially Phycobryales, but likewise Confervaceæ and Zygnemaceæ, to be found growing in great abundance."

The seven plates illustrate not only the new species and varieties, but also several others, described before by other authors.—THEO. HOLM.

NOTES AND NEWS.

DR. THOMAS MORONG is expected home from South America about the first of October.

PROFESSOR F. LAMSON-SCRIBNER has been made Director of the Agricultural Experiment Station of Tennessee.

THE AMERICAN Forestry Association met at Quebec, September 2-5, with Hon. James A. Beaver, of Pennsylvania, as President.

DE SAUSSURE'S chemical researches on vegetation, published in 1804, has just been translated from the French into German. It seems that the English are not alone in translating old botanical works.

MR. JAMES L. BENNETT has been elected Curator of the Herbarium at Brown University. Mr. Bennett intends to take charge of ordinary herbarium specimens, but desires to get together a museum of vegetable products to illustrate economic botany. He bespeaks aid from the botanical fraternity in this regard, and would be glad to receive specimens of fruits, fibers, fabrics, etc.

MESSRS. D. C. WORCESTER and F. S. BOWMER, recently of the University of Michigan, left July 22d for the Philippine Islands, where, through the large liberality of L. F. Menage, of Minneapolis, they will spend two years in the collection of scientific material. While the principal objects they intend to secure are birds and corals, they have determined to do considerable collecting in the line of fungi, paying particular attention to the *Sphaeriodia* and *Gasteromycetes*. Mr. Worcester was instructor in botany for some time at the University of Michigan, and while there specialized upon the *Myxomycetes*, so results may be looked for in this line. The work on the material collected will be prosecuted at Minneapolis under the auspices of the Minnesota Academy of Sciences, in the museums of which all the collections will be deposited for the use of scientific men.

THE Horticultural Department of the Cornell University Experiment Station is making a large and important collection of cultivated plants. Collectors are sent to leading nurseries and botanists are employed in many parts of the country to collect the cultivated plants from commercial establishments. Everything upon the Cornell grounds is preserved, and recently Professor L. H. Bailey has turned over to the University his whole collection of cultivated plants. Not only the species, but all cultivated varieties are preserved. This is probably the first distinct attempt of this kind in this country.

THE OUTER LAYER of the endosperm of the seeds of grasses has long been considered as a reservoir of nitrogenous substances, although several writers have suggested that it was either a conducting tissue for diastase or a ferment-producing layer. Dr. G. Haberlandt has now convinced himself by experimental researches that it can no longer be considered as belonging to the storage system, but that during the time of germination it produces and excretes diastase, belonging therefore to the glandular system. The anatomical structure of the "aleurone layer" during germination is exactly that of glandular cells. Moreover, a bit of this tissue separated from the grain and carefully washed will, if placed in contact with starch, corrode the grains and finally dissolve them, a result which was not obtained in control experiments. In order that this formation of diastase shall begin it is necessary that at least a portion of the embryo capable of growth should be present.

THE SOCIETY for the Promotion of Agricultural Science at its meeting in Indianapolis, August 18 and 19, had the largest number of papers presented before it during any time in its history. The following are a part of the botanical subjects: T. J. Burrill, "Preliminary notes upon rotting of potatoes," describing a specific Bacterium which produces soft rot; B. T. Galloway, "Some recent observations on black-rot of the grape," detailing the result of infection experiments with the spores of the fungus; B. D. Halsted, "The rots of the sweet potato," separating them under their common names and giving their comparative occurrence in New Jersey; L. H. Pammel, "Some fungus root diseases," a resumé of the present state of the subject, with personal observations; E. L. Sturtevant, "Cucurbita an American genus," bringing together a mass of facts to substantiate the claim; and C. M. Weed, "The scab of wheat heads," describing the destruction of wheat heads by a *Fusisporium*.

THE MOST detailed account that has yet appeared on the process of paraffin imbedding in plants is that given by Ludwig Koch in Pringsheim's *Jahrbücher f. wiss. Botanik*, xxi, 367-468. Exact directions are given for every step of the process, so that any one who can read them and do as he is told can not fail to secure good results. When, however, we come upon a detailed description of a microtome (5 pp.) we must own to surprise that such "padding" is permitted in this journal. Here is the way it begins: *Der Körper des Mikrotoms besteht entweder aus vernickeltem Eisen oder aus Bronze. . . . An dem Körper des Instruments sind zwei Schlittenbahnen angebracht, u. s. w.*! The last 60 pages contain an account of the various organs and tissues that the author has imbedded in this way, specifying the success, difficulties or failures with each. In spite of the extraordinary verbosity the paper will be extremely useful. The use of chloroform instead of turpentine in permeating the specimens with paraffin is recommended and we have found it economical of time.